



United States
Department of
Agriculture

Agricultural
Research
Service

North Central Region
Metabolism and
Radiation Research
Laboratory

P.O. Box 5674
State University Station
Fargo, North Dakota
58105

December 16, 1982

SUBJECT: Assignment of APHIS Personnel to ARS Labs

TO: Dr. Claude Schmidt,
Laboratory Director

Enclosed are two proposals prepared in response to Dr. Kinney's letter of November 26. The subject of each proposal has been discussed with Drs. Ralph Bram (NPS, ARS), Floyd Smith (NPS, APHIS), and Chris Hofman (Staff Entomologist, APHIS Screwworm Eradication Program). All were in agreement with regard to the bona fide need for the projects proposed.

While our laboratory space would allow only one of the projects to be undertaken at a time, we would welcome assistance from an APHIS scientist in the work.

Chandler J. Whitten
Research Entomologist
Screwworm Project Leader

Region _____ Priority _____

Opportunity for Assignment of APHIS Scientist to ARS Lab

Laboratory Metabolism and Radiation Research Laboratory

Address P.O. Box 5674
Fargo, North Dakota 58105

Justification of need for APHIS scientist There is a genuine interest on the part of the management of the APHIS screwworm eradication program to investigate the possibility of using the principle of hybrid vigor to enhance the effectiveness of the release flies. Certain research projects being done at this laboratory involve the production of hybrid screwworms to be used for genetic studies, but the lack of scientific personnel precludes an extension of the study to assess the insects for evidence of heterosis or to make further studies into the induction of heterosis. The assignment of an APHIS scientist could provide the support necessary to properly respond to the needs of APHIS.

Description of contribution to ARS program

In contributing to the ARS screwworm research program of providing direct research support to the screwworm eradication program, the APHIS scientist would investigate for the presence of heterosis among the hybrid progeny of pure lines of screwworms. (The purity of the cultures would be established by ARS geneticists.) The scientist would establish parameters such as insect size, survival, male competitiveness, etc. as criteria to assess the potential of the hybrid insects. A demonstration of hybrid vigor would serve as an impetus for APHIS to consider a multiple strain concept in producing sterile flies for release. Equally important would be the new knowledge gained that could be applied to the development of strains of screwworms for release, currently an ARS function.

Region _____ Priority _____

Opportunity for Assignment of APHIS Scientist to ARS Lab

Laboratory Metabolism and Radiation Research Laboratory

Address P.O. Box 5674
Fargo, North Dakota 58105

Justification of need for APHIS scientist Several biochemical methods have been developed by ARS scientists for evaluating the metabolic potential of the screwworm. But, because of assigned priorities, the work has not been completed to a stage that would be most useful to APHIS. However, with the preliminary work having been completed an APHIS scientist familiar with the mass production of screwworms could assess and consolidate the techniques into a program suitable for monitoring the quality of screwworms produced for the eradication program.

Description of contribution to ARS program

The primary objective of the ARS research program with screwworms is to provide direct support to the APHIS screwworm eradication program. The APHIS scientist would contribute to the ARS program by evaluating biochemical techniques, primarily quantitative and qualitative measurements of metabolic activities of screwworms in vivo and in vitro, and determine the adaptability and feasibility of each technique to the quality control program of the APHIS methods and development group. With the insects, equipment, and expertise available at the ARS laboratory, the APHIS scientist would provide the critical link of adapting established technology for use by an action program.



United States
Department of
Agriculture

Agricultural
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Service

North Central Region
~~Michigan, Minnesota, Wisconsin, and~~
Northern States
Area

Room 266, North Hall
University of Minnesota
2005 Buford Avenue
St. Paul, Minnesota
55108

December 3, 1982

SUBJECT: Possibilities for APHIS
Personnel at ARS Locations

TO: J. F. Schafer, Research Leader
N. D. Williams, Research Leader
→ C. H. Schmidt, Laboratory Director

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RECEIVED
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FARGO, N. DAK.

The enclosed memo from Dr. Kinney asks for proposals to have APHIS scientists stationed in ARS laboratories. If you are interested in this type of arrangement, please prepare the one-page proposal and submit it to this office by December 16. This will allow us to meet a December 21 deadline at the Regional Office.

TAMLIN C. OLSON
Associate Area Director

Enclosure



United States
Department of
Agriculture

Science and
Education
Administration

Agricultural Research
North Central Region
Office of the
Regional Administrator

2000 West Pioneer Parkway
Peoria, Illinois
61615

November 30, 1982

SUBJECT: Possibilities for APHIS Personnel at ARS Laboratories

TO: Area/Center Directors, NCR

In accord with the attached memorandum from Dr. Kinney, I ask that you submit proposals to the regional office by COB December 21, 1982. Holiday mail being what it is, I judge that we need that much lead time to comply with the ARS deadline.

In addition to the information designated by the attached format, I suggest that you include the name of the principal ARS scientist with whom the APHIS scientist would work. Some indication of the expected duration of the assignment also would be appropriate.

If you submit more than one proposal, please indicate your priority among them.

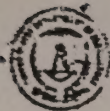
ROBERT A. RHODES
Acting Regional Administrator

Enclosure

cc:

R. M. Heerman, w/cy encl.

P. J. Fitzgerald, w/incoming memo



Tuckler

NOV 26 1982

SUBJECT: Assignment of APHIS Personnel to ARS Labs

TO: R. F. Barnes, Acting Regional Administrator, SR
H C Cox, Regional Administrator, WR
P. J. Fitzgerald, Regional Administrator, NCR ✓
G. E. Vanden Berg, Acting Regional Administrator, NER

From time to time we have had APHIS personnel assigned to work in cooperation with our scientists in our laboratories. I believe that in most instances these APHIS scientists have greatly benefited our programs. The ARS/APHIS research and diagnosis committee chaired by Dr. Lyle Hanson has responded to my request to examine the relationships between ARS and APHIS and has recommended that APHIS personnel be assigned to our laboratories.

This is to request that you examine opportunities for such assignments and have one page proposals developed according to the enclosed format. Please prioritize them and provide them to me by January 1, 1983.

Please give special attention to the justification of the need and the description of the contribution such people could make.

T. B. Kinney

T. B. KINNEY, JR.
Administrator

Enclosure

cc:

O. G. Bentley
M. E. Carter
I. D. Branson
T. J. Army



United States
Department of
Agriculture

Science and
Education
Administration

Agricultural Research
North Central Region
Office of the
Regional Administrator

2000 West Pioneer Parkway
Peoria, Illinois
61615

Pending
Per
John

December 27, 1982

SUBJECT: Opportunities for APHIS Scientists at ARS Laboratories
in the North Central Region

TO: T. B. Kinney, Jr.
Administrator, USDA-ARS
Rm. 302-A, Administration Bldg.
Washington, D.C. 20250

CC - Mr. J. Schafer &
C.H. Schmidt
for information
KLL

In response to your memorandum of November 26, 1982, I enclose 16 proposals on the subject. Each proposal is in the prescribed one-page format with the regional priority indicated.

The proposals in priority order are summarized as follows:

1. Monitoring procedures and survey of cereal rust in U.S.
Cereal Rust Laboratory, St. Paul, MN
2. Epidemiology of reproductive failure in swine.
National Animal Disease Center, Ames, IA
3. Rearing and release of tagged corn pests to establish
annual migrating pattern.
Corn Insects Research Unit, Ames, IA
4. Evaluate vegetable oils as carriers for agricultural chemicals.
Northern Regional Research Center, Peoria, IL
5. Incidence-distribution maize viruses in corn belt.
Corn Research Unit, Wooster, OH
6. Heterosis among hybrid screwworms.
Metabolism & Radiation Research Laboratory, Fargo, ND
7. Identification of sows and boars going to slaughter.
Bioengineering Research Unit, Columbia, MO
8. Evaluation of natural and controlled release pesticides.
Northern Regional Research Center, Peoria, IL
9. Diagnosis and epidemiology of disease at U.S. Meat
Animal Research Center.
Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, NE
10. Restriction endonuclease analysis to distinguish isolates of
pseudorabies virus.
National Animal Disease Center, Ames, IA

11. Relationship of cultural practices to pest losses in wheat.
Plant Science and Entomology Unit, Manhattan, KS
12. Antiquality factors in Tall Fescue.
Missouri Cluster, U.S. Dairy Forage Research Center, Columbia, MO
13. Monitoring and surveying apple pests for IPM models.
Fruit Insect Resistance Unit, West Lafayette, IN
14. Metabolic potential of screwworms for eradication programs.
Metabolism & Radiation Research Laboratory, Fargo, ND
15. Methods to diagnose root- and crown-rot in Birdsfoot trefoil.
Crop Production Unit, Columbia, MO
16. Survey of vegetable diseases.
Fruit & Vegetable Insects Laboratory, Vincennes, IN

RA Rhodes

ROBERT A. RHODES
Associate Regional Administrator

16 Enclosures

cc:

P. Fitzgerald, w/o enclosures

R. Heermann, w/enclosures

Area Center Directors, NCR, w/o enclosures



United States
Department of
Agriculture

Agricultural
Research
Service

National
Program
Staff

Whitten
Beltsville, Maryland
20705

March 1, 1983

SUBJECT: Participation of W. H. Sudlow in Investigation of Screwworm
Attractant Fractions from Unbilical Cords

TO: F. E. Smith, APHIS

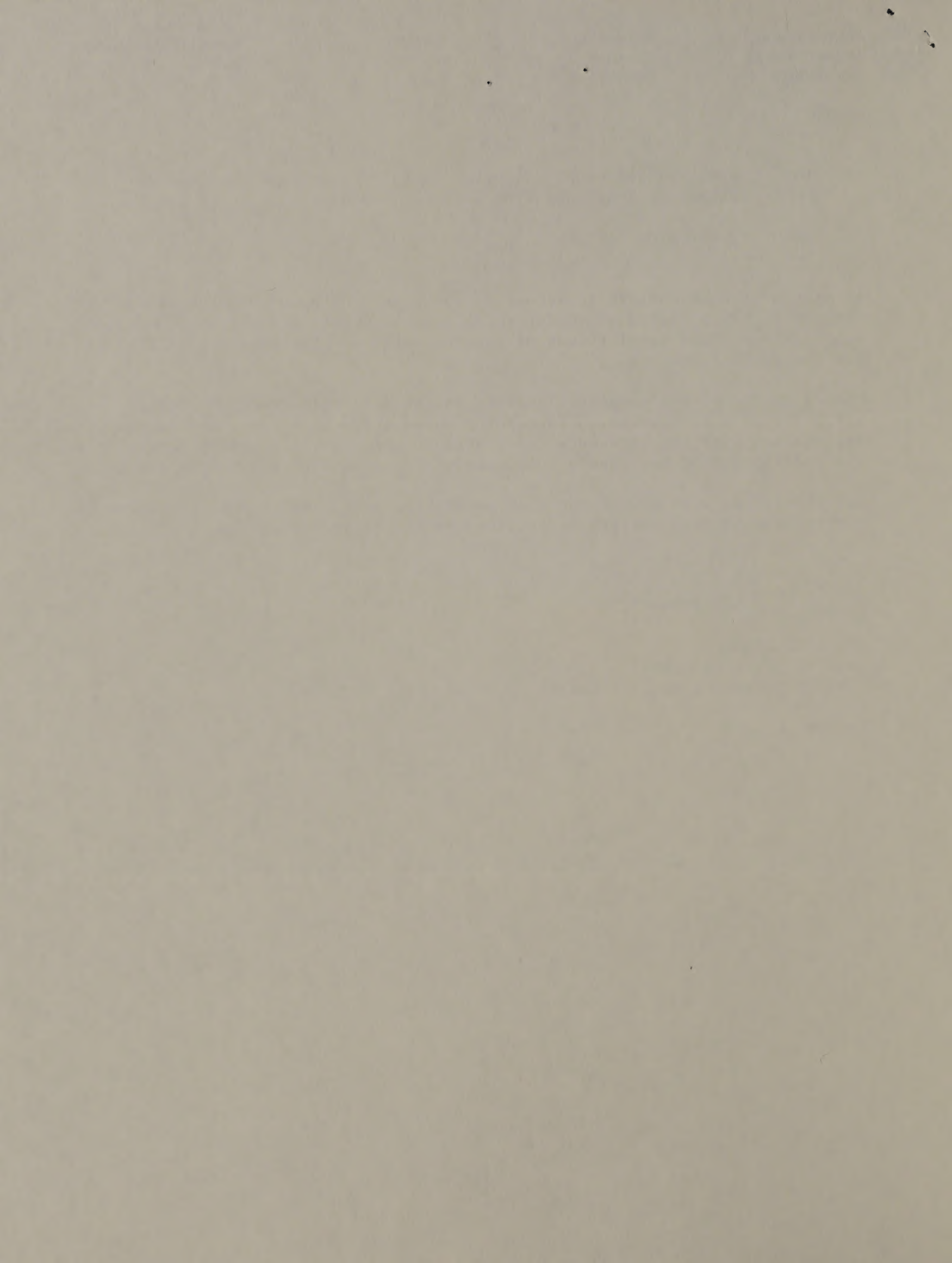
As part of the ARS effort to intensify research on screwworm attraction, a project is being initiated to determine screwworm attractant fractions from umbilical cord and navel tissue of newborn animals. Enclosed please find an outline of this proposal.

Please note that the proposal includes an integral role for W. H. Sudlow, APHIS-VS, as a cooperator in performing these investigations. Mr. Sudlow's long association with the screwworm eradication program and his unique knowledge make him ideally suited to closely cooperate with ARS scientists in this project.

We, therefore, wish to request that permission be granted for W. H. Sudlow to participate in this project as outlined in the project proposal.

RALPH A. BRAM
National Program Leader
Insects Affecting Man & Animals

Enclosure



Proposal

Title: Determination of screwworm attractant fractions
from umbilical cord and navel tissue of newborn animals

Background:

It has been recognized by ranchers, old screwworm researchers, veterinarians and control program persons, as well as present day scientists that the navel tissue of newborn animals (calves, lambs, kids, etc) serves as a prime oviposition and infestation site for screwworms. This may be due to natural components of the tissue or products due to natural (autolytic) or bacterial decomposition. Isolation of fractions from this tissue, that provide a certain degree of attractiveness, and the identification of these components may provide information concerning the enhancement of swormlure-4 and new attractants for use in SWASS, survey systems, and as oviposition stimulants.

Plan of Work:

Umbilical cords and navel tissue will be collected from newborn calves at a local dairy. This source has a herd of 750 adult cows which should provide an adequate supply of tissue.

Arrangements have been made with the management of the dairy to allow their personnel to collect the tissue when born, place the tissue in containers provided by ARS and give us a call. Those samples collected at night are to be called in shortly after 8:00 a.m. daily and held in a refrigerator until we pick them up. This dairy has agreed to provide newborn bull calves for navel tissue collections when, and if, needed.

Tissue will be transported to the Agricultural Products Quality Research Weslaco and various extracts and preparations will be prepared. Each of the steps of work will depend on results from previous efforts.

Initially, preparations of tissue will be made by extracting, individually and sequentially, with various solvents with increasing polarity (i.e. hexane, methylene chloride, acetone, methanol) and with solvent mixtures and pairs. Other preparations using freeze-dried materials and acetone powders will be used as test fractions.

Samples, once prepared, will be properly stored until they can be transported to Tuxtla Gutierrez, Chiapas, Mexico for bioassay. Bioassay of fractions for attractancy and oviposition stimulation will be conducted with fertile females in the laboratory using trap jar techniques and with gravid females for oviposition attractants. Techniques of these assays will be worked out during the initial stages.

Those fractions that yield positive results will be subjected to field evaluations, first at the mass-rearing plant in Tuxtla Gutierrez, Chiapas then in the field in areas having wild and released (sterile) fly populations. These fractions will be subjected to further chemical/physical fractionation and

sub-fractions will be bioassayed in a similar manner. This process will be repeated until classes of compounds, or individual materials, have been identified. Results from these studies may provide necessary information for formulating a new attractant.

Facilities:

Facilities designated for these studies will be: (1) the analytical and preparative laboratories of the Agricultural Products Quality Research Unit in Weslaco, Texas; (2) the Screwworm Research Unit's fly secure laboratory in Tuxtla Gutierrez, Chiapas; (3) The Methods Development Section at the Mexico-American Commission's mass-rearing facility at Tuxtla Gutierrez, Chiapas (if needed); and (4) the area around the facility for bioassay purposes.

Personnel:

Harold E. Brown, ARS, Weslaco, TX.
James E. Mackley, ARS, Tuxtla Gutierrez, Chiapas, Mexico
William H. Sudlow, APHIS, VS, Mission, TX.
Paul E. Thompson, ARS, Weslaco, TX.
Melquiades Leal, ARS, Mission, TX.
Jose Garcia, ARS, Mission, TX.
Maria G. Rodriquez, Mexican-American Commission, Mission, TX
Arturo Vela, Mexican-American Commission, Mission, TX

Harold E. Brown will serve as project coordinator with the assistance of W. H. Sudlow and James E. Mackley. This group, in concert, will plan sequential steps in the approach. This approach will be coordinated with O. H. Graham and others at Tuxtla Gutierrez by James E. Mackley.

W. H. Sudlow will be assigned blocks of time ranging up to 10 days in duration, initially, to travel to Tuxtla Gutierrez for performing bioassays and making observations on various fractions, samples and/or materials as needed in conjunction with James E. Mackley. Jose Garcia and Melquiades Leal will be used for collecting, preparing, and handling samples and performing bioassays as needed, when available. Paul E. Thompson and Maria G. Rodriquez will be responsible for chemical/physical fractionation and sample preparation. Arturo Vela will be responsible for collecting samples and assisting Thompson and Rodriquez in sample preparation.

Schedule:

Work has been initiated and will be accelerated as soon as all parties are contacted and are in agreement with this proposal. W. H. Sudlow's time will be allocated, when available and mutually agreeable, in blocks of days in order to accomplish specific bioassays. Thompson, Rodriquez and Vela will spend full time in sample preparation and fractionation.

James E. Mackley, O. H. Graham and others at Tuxtla Gutierrez will be consulted and proper arrangements made with time allowed for adequate preparation of bioassay material to be used in experiments.

